

MHI  
Copy 3

# FM 11-147

DEPARTMENT OF THE ARMY FIELD MANUAL

---

# SIGNAL SMALL HEADQUARTERS, OPERATIONS COMPANY



HEADQUARTERS, DEPARTMENT OF THE ARMY  
MARCH 1966



FIELD MANUAL }  
 No. 11-147 }

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 WASHINGTON, D. C., 15 March 1966

**SIGNAL SMALL HEADQUARTERS, OPERATIONS COMPANY**

	Paragraph	Page
CHAPTER 1. GENERAL		
Section I. INTRODUCTION		
Purpose .....	1	3
Scope .....	2	3
Comments on publication.....	3	3
References .....	4	3
Section II. COMPANY CHARACTERISTICS		
Mission .....	5	3
Assignment and allocation.....	6	4
Capabilities .....	7	4
Limitations .....	8	4
Unit modification, category, and mobility.....	9	5
CHAPTER 2. THEATER ARMY SIGNAL COMMUNICATIONS		
Section I. SIGNAL COMMUNICATIONS IN THE COMMUNICATIONS ZONE		
Introduction .....	10	6
Signal Communications in the Communications Zone.....	11	6
Theater Army Signal Command.....	12	6
Unit Employment in the Communications Zone.....	13	6
Section II. SIGNAL COMMUNICATIONS IN THE FIELD ARMY		
The Army Area Communications System.....	14	7
The Army Signal Brigade.....	15	7
Unit Employment in the Field Army Area.....	16	7
CHAPTER 3. COMPANY ORGANIZATION		
General .....	17	8
Company headquarters .....	18	8
Telephone operations platoon .....	19	11
Mobile radio section .....	20	11
Communications center platoon .....	21	15
Photographic section .....	22	15
CHAPTER 4. COMPANY MISSION OPERATIONS		
General .....	23	17
Command relationships .....	24	17
Telephone operation platoon headquarters.....	25	19
Central office telephone section .....	26	19
Wire-telephone installation section .....	27	20
Mobile radio section .....	28	20
Communications center platoon headquarters.....	29	21
Message center section .....	30	21
Teletypewriter operations section .....	31	22
Photographic section .....	32	23
Trunking facilities .....	33	24
Displacement .....	34	24
CHAPTER 5. COMPANY ADMINISTRATIVE OPERATIONS		
General .....	35	26
Company command post .....	36	26
Personnel management .....	37	26
Mess management .....	38	26

	Paragraph	Page
CHAPTER 5. COMPANY ADMINISTRATIVE OPERATIONS—		
Continued		
Supply management .....	39	26
Maintenance management .....	40	27
Company training .....	41	29
Company security .....	42	29
Motor movement .....	43	29
Company standing operating procedures .....	44	30
APPENDIX I. REFERENCES .....	--	31
II. CHARACTERISTICS OF MAJOR ITEMS OF MISSION		
EQUIPMENT .....	--	33

# CHAPTER 1

## GENERAL

---

### Section I. INTRODUCTION

#### 1. Purpose

This manual provides doctrinal guidance for the employment of personnel and equipment of the signal small headquarters, operations company as organized under TOE 11-147E.

#### 2. Scope

a. This manual covers the characteristics, mission operations, and administrative operations of the signal small headquarters, operations company. In addition, appendix II lists the technical and logistical characteristics of the major items of organic communications-electronics equipment.

b. The material contained herein is applicable to warfare in non-nuclear, nuclear, and counterinsurgency operational environments.

#### 3. Comments on Publication

Users of this manual are encouraged to submit recommended changes or comments to improve the publication. Comments should be prepared according to AR 310-3 and keyed to the specific page, paragraph, and line of the text to which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to the Chief, Organization and Doctrine Division, U. S. Army Combat Developments Command Communications-Electronics Agency, ATTN: Doctrine Branch, Fort Monmouth, N. J. 07703.

#### 4. References

Publications that provide detailed information relating to the material presented herein are listed in appendix I.

### Section II. COMPANY CHARACTERISTICS

#### 5. Mission

a. The primary mission of the signal small headquarters, operations company is to provide internal communications facilities and photographic services (except aerial combat surveillance) for an area command headquarters, terminal command headquarters, support brigade headquarters, or other headquarters of comparable size.

b. The signal small headquarters, operations company may be assigned or attached to a MAAG headquarters, mission headquarters, or a unified headquarters to support counterinsurgency operations. When so assigned or attached, specific missions may include, but are not limited to the following:

- (1) Provide internal communications support for the supported headquarters.
- (2) Provide communications support to special warfare forces committed in counterinsurgency operations.
- (3) Provide communications support to the receiving states' military or civilian forces to enhance their communications capability.
- (4) Provide communications training to the receiving states' military or civilian forces. This training may include basic electronics, radio, teletypewriter, telephone, and maintenance of communications equipment.
- (5) Make communications surveys to pro-

vide a basis for allocation of communications equipment and assistance to the receiving state.

## 6. Assignment and Allocation

a. This unit is assigned or attached, as required, to an area or terminal command in the COMMZ or to a support brigade in the field army area or to other commands of comparable size.

b. The basis of allocation is one per small headquarters not authorized organic communications facilities and requiring communications for normal operations.

## 7. Capabilities

This unit as full strength can—

a. Install, operate, and maintain terminal type communications for a supported headquarters to include—

- (1) Manual telephone central office and local telephone distribution system and information and directory service for the supported headquarters. The telephone central office is capable of interconnecting 200 local- or common-battery circuits and 20 manual or dial trunk circuits.
- (2) Message center facilities to process and route outgoing and incoming message traffic for the supported headquarters.
- (3) Cryptographic facilities to encrypt outgoing and to decrypt incoming messages for the supported headquarters. This service includes the use of both on-line and off-line cryptographic devices.
- (4) Teletypewriter facilities to include—
  - (a) Three secure radioteletypewriter stations.
  - (b) A maximum of sixteen (16) half-duplex or full-duplex tape teletypewriter terminals plus eight (8) half-duplex page teletypewriter terminals. Twelve (12) on-line cryptographic security devices are provided to secure teletypewriter terminals. These security devices

can be used to secure six (6) full-duplex or twelve (12) half-duplex teletypewriter terminals or any combination thereof.

(5) A facsimile station to transmit or receive page copy such as maps, diagrams, and pictorial material up to 12 by 18 inches. Transmission time is 20 minutes per page.

(6) Three (3) motor messenger teams to provide ground messenger service for the supported headquarters.

b. Provide pictorial service to include—

(1) Still and motion picture coverage (except aerial combat surveillance).

(2) Operation of a mobile photographic laboratory for the processing of ground and aerial still photographic coverage, as required. Exposed motion picture film is forwarded to the theater army pictorial units for processing.

c. Provide mess facilities on a 24-hour basis.

d. Provide organizational maintenance of organic arms, vehicles, and power equipment.

e. Provide that level of maintenance, formerly known as third echelon, for the company's organic communications and photographic equipment.

f. Engage in coordinated defense of the unit's area and installations.

## 8. Limitations

a. This unit does not have any echeloning displacement capability.

b. This unit depends on other units and organizations for the following support:

- (1) Medical and religious services.
- (2) Direct and general maintenance support for organic arms, vehicles, and power equipment.
- (3) General support maintenance for organic communications - electronics equipment.

c. This unit depends on other signal operating units in the area to provide trunking facilities to the area communications system.

*d.* Data transceiver support will be provided by augmentation, as required, with appropriate teams from TOE 11-500.

**9. Unit Modification, Category, and Mobility**

*a.* At reduced strength, this unit can be adapted to the lesser requirements for personnel and equipment during periods of non-combat and for limited periods of combat. This unit can also be modified by deleting sections

and teams such as photographic section and messenger teams when these services are provided the supported headquarters by other signal units of a higher headquarters.

*b.* TOE 11-500 teams may be assigned to provide additional communications capabilities.

*c.* The unit is designated as a Category II unit within the meaning of AR 320-5.

*d.* The unit is sixty (60) percent mobile.

## CHAPTER 2

### THEATER ARMY SIGNAL COMMUNICATIONS

---

#### Section I. SIGNAL COMMUNICATIONS IN THE COMMUNICATIONS ZONE

##### 10. Introduction

The theater commander is responsible for providing communications to and between component services and joint forces within a theater of operations. The theater commander normally delegates authority to provide communications between army forces within a theater of operations to the theater army commander. The theater army commander delegates authority for communications functions within the combat zone to the field army commanders and retains the authority for communications functions within the COMMZ within his own command.

##### 11. Signal Communications in the Communications Zone

The theater army communications system (TACS) is a multi-channel, multi-means, multi-axis, integrated communications system of high-capacity, high-quality trunk circuits. These trunks criss-cross the COMMZ, and extend from the COMMZ into the field army area where they interconnect with the field army area communications systems. Indigenous communications facilities are used to the maximum extent possible. In addition, TACS provides terminals for interconnecting with the Defense Communications System. The TACS utilizes radio, radio relay, and field cable together with associated terminal equipment in a combination of control centers, control subcenters, and switching centers. Facilities are provided on a common-user basis; however, provisions for sole-user circuits may be made when authorized by the theater army commander. The Air Force, Navy, Allied Forces, and others (Red Cross, USO, Press, etc.) are furnished communications facilities through this system when directed or authorized by the theater army commander.

##### 12. Theater Army Signal Command

The operating element of theater army responsible for the installation and operation of the TACS is the theater army signal operations command. The signal operations command operates under the command of the theater army commander and is organized on a functional basis with type groups and TOE units. Elements of this command are deployed throughout the COMMZ as required. Theater army signal commands will vary from one theater or operations to another because of the mission assigned to theater army, the organization of theater army forces, the size of the theater of operations, and the desires of the theater army commander. Therefore, the organization of a theater army signal command is flexible and is capable of being tailored to accomplish the mission of the theater army in any theater of operations. To provide this flexibility a theater army signal command is made up of building-block units that can be added or deleted as the situation requires. One of these building-block units is the signal small headquarters, operations company. For further details, see FM 11-20, Signal Operations, Theater of Operations.

##### 13. Unit Employment in the Communications Zone

a. The signal small headquarters, operations company is employed in the COMMZ to provide internal communications facilities for the headquarters to which assigned or attached. These communications facilities and services are those discussed in paragraph 7.

b. The company depends on the theater army signal command to provide trunking facilities, both radio relay and field cable with associated carrier equipment, from the headquarters sup-



ported to designated control centers and sub-centers of the TACS; and for the installation of

long local wire circuits to units in the vicinity of the supported headquarters.

## **Section II. SIGNAL COMMUNICATIONS IN THE FIELD ARMY**

### **14. The Army Area Communications System**

The army area communications system normally consists of signal centers installed throughout the army area. The system will normally be confined to the region between the army rear and division rear boundaries, although at times a signal center may be located in the forward area of the COMMZ or in the division rear area. The area signal centers will be located to facilitate alternate routing and easy access to the users of the system. Major headquarters, units, installations and agencies should be provided circuits to more than one signal center to reduce the possibility of complete disruption of service due to enemy action or equipment failure. Lesser headquarters, units, installations and agencies will be provided circuits to at least one signal center. The signal centers in the army area communications system are interconnected by spiral-four cable, multi-channel radio relay systems, or a combination of both. Thus, the entire field army area of operations is covered by a lattice of radio relay and cable trunks interconnecting signal centers. All military headquarters, units, agencies, and installations in the vicinity of one of these signal centers are authorized use of this system on a common-user basis. However, provisions may be made for allocation of circuits on a sole-user basis when authorized by the field army commander.

### **15. The Army Signal Brigade**

The field army area communications system is installed, operated, and maintained by the army signal brigade. The units of the brigade that performs these functions are the combat area signal battalions, each battalion comprised of 4 combat area signal companies. Each company has the capability of installing, operating, and maintaining one area signal center. In

addition, each company is provided with limited radio relay and carrier trunk terminal equipment to furnish extension facilities to major headquarters and units not provided with organic multi-channel equipment. (An extension facility is a link between an area signal center and a unit or headquarters supported by the signal center.) Equipment and personnel to operate both terminals of the extension facility are normally provided by the combat area signal company.

### **16. Unit Employment in the Field Army Area**

a. The signal small headquarters, operations company will be assigned to the field army signal brigade and will be attached to support brigades or any other field army installation, headquarters or activity that requires communications support within the capabilities of the company.

b. When attached to a support brigade or other field army installation, headquarters or activity, operational control will be exercised by the staff signal officer for the commander of the supported headquarters.

c. The signal small headquarters, operations company is not equipped with multi-channel radio relay or carrier equipment. Therefore, the combat area signal company operating the nearest army signal center must furnish the extension facilities required to connect the supported headquarters or unit with the signal center. On the initial move into the field army area, the commander of the signal small headquarters, operations company will coordinate communications requirements with the army signal officer or with the commanding officer of the army signal brigade. Subsequent moves will be coordinated with the commanding officer of the signal center responsible for providing the necessary communications support.

## CHAPTER 3

### COMPANY ORGANIZATION

---

#### 17. General

The signal small headquarters, operations company (fig. 1) consists of a company headquarters, a telephone operations platoon, a mobile radio section, a communications center platoon, and a photographic section.

*a.* The telephone operations platoon consists of a platoon headquarters, a central office telephone section, and a wire-telephone installation section.

*b.* The communications center platoon consists of a platoon headquarters, a message center section, and a teletypewriter operations section.

#### 18. Company Headquarters

The company headquarters consists of the company commander, enlisted specialists, and the necessary equipment to establish and operate a company command post (CP). Company headquarters provides services such as company training, mess, supply, and organizational maintenance of organic arms and vehicles. The TOE provides the company headquarters personnel and equipment which may be organized functionally into elements to perform specific services for the company operating platoons and sections. A type organization for company headquarters is shown in figure 2.

*a. Command Element.* The command element consists of the company commander who is responsible for establishing the company CP for command and control of the company. He is authorized a  $\frac{1}{4}$ -ton truck with trailer and Radio Set AN/VRC-46 to coordinate communications support for the supported headquarters.

*b. Administration Element.* The administration element consists of the first sergeant, a company clerk, and a personnel specialist. The

administration element is closely associated with the company commander in establishing and operating the company CP. This element is equipped with a general purpose tent, safe, typewriters, gasoline engine generator set, and miscellaneous equipment necessary to establish and operate the company CP.

*c. Mess Element.* The mess element consists of a mess steward, three (3) first cooks, two (2) cooks, and a cook's helper. This element is organized and equipped to operate a company mess on a 24-hour basis. The TOE allocates a  $2\frac{1}{2}$ -ton truck, a water tank trailer, a kitchen tent, ranges, cooks' sets, food containers, and tableware necessary to establish and operate the company mess. Details of company mess operations are discussed in paragraph 38.

*d. Supply Element.* The company supply element consists of a supply sergeant (also designed as the company armorer), a unit supply specialist, and a signal supply-parts specialist. This element is equipped with a  $\frac{3}{4}$ -ton truck with trailer, a general purpose tent, armorer's tool kit, carpenters' tool kit, and a tentage repair kit. The  $\frac{3}{4}$ -ton truck and trailer are used to haul supplies for the company. The details of company supply operations are discussed in paragraph 39.

*e. Motor Element.* The motor element consists of a motor sergeant, two wheeled vehicle mechanics, two mechanic helpers, and a light truck driver. This element is equipped with two  $2\frac{1}{2}$ -ton trucks with trailers (one truck is equipped with a winch), a maintenance tent, tool kits, and a gasoline tank and pump unit. The motor element provides organizational motor maintenance and operates a gasoline distribution point for the company. Details of maintenance management are contained in paragraph 40.

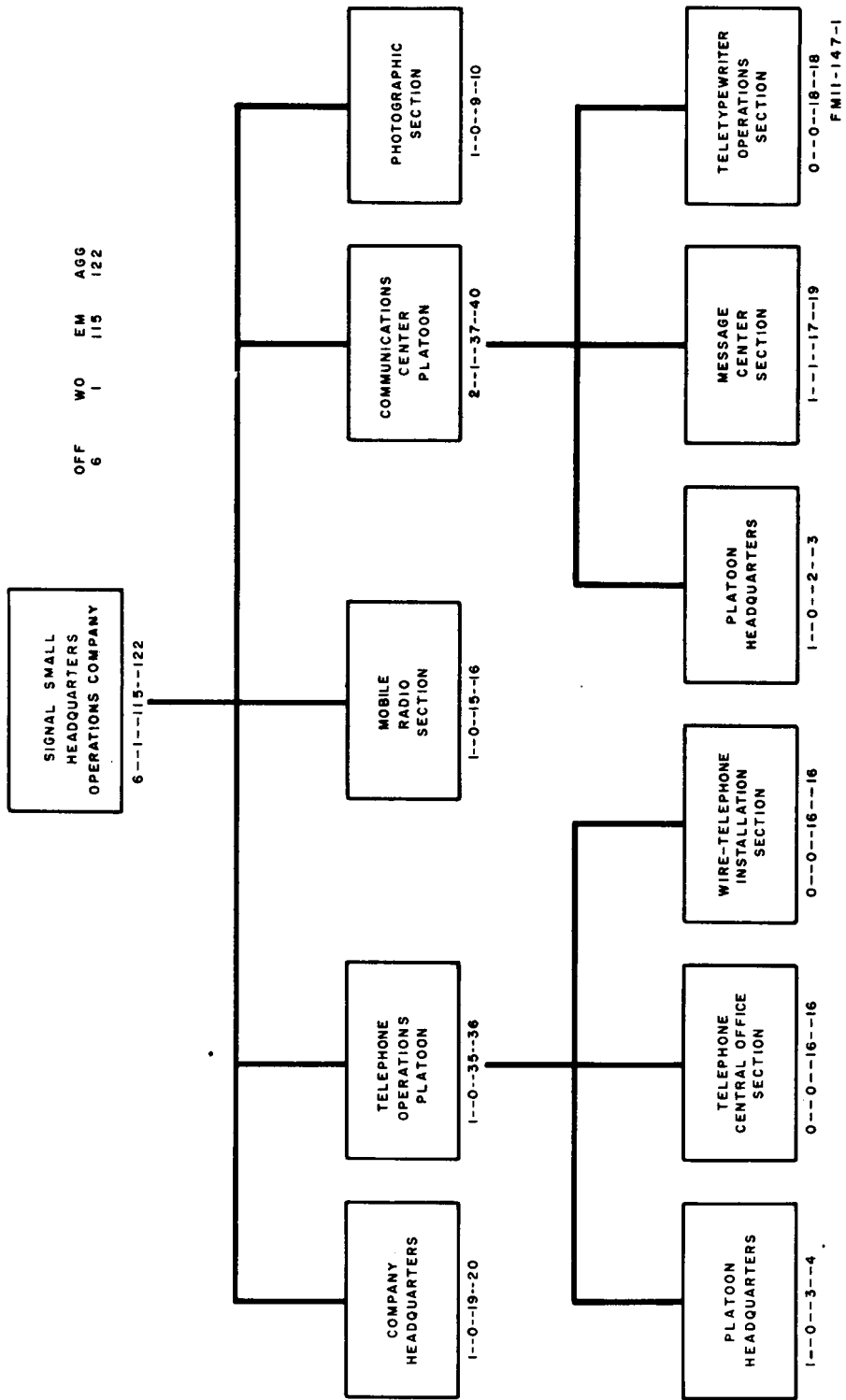
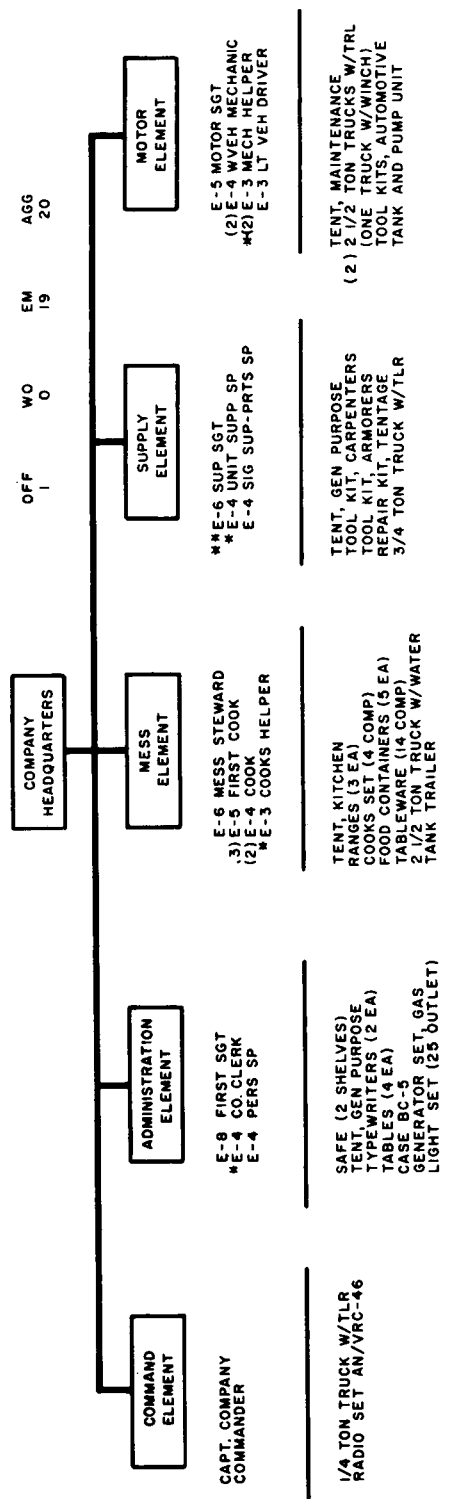


Figure 1. Organization of the signal small headquarters, operations company.



NOTES:  
\*ALSO LIGHT TRUCK DRIVER  
\*\*ALSO COMPANY ARMORER

FM 11-147-2

Figure 2. Type organization for company headquarters.

## 19. Telephone Operations Platoon

The telephone operations platoon (fig. 3) consists of a platoon headquarters, a central office telephone section, and a wire-telephone installation section. This platoon contains the personnel and equipment to install, operate, and maintain the local telephone system and provide information and directory service for the supported headquarters.

*a.* The platoon headquarters is made up of a platoon leader, a platoon sergeant (NCO), a powerman, and a light vehicle driver.

- (1) The platoon leader, assisted by the platoon sergeant, provides command and supervision of platoon operations. The platoon leader is provided a  $\frac{1}{4}$ -ton truck with trailer for supervision and coordination of platoon operations.
- (2) The light vehicle driver drives the  $\frac{1}{4}$ -ton truck for the platoon leader.
- (3) The powerman provides organizational maintenance for gasoline engine generating equipment for the platoon.

*b.* The central office telephone section consists of a telephone switchboard operations supervisor (NCO) and the necessary switchboard operators and maintenance personnel necessary to install, operate, and maintain the Telephone Switchboard Group AN/MTA-3 and the Telephone Connecting and Switching Group AN/MTA-4, both components of the Manual Telephone Central Office AN/MTC-1. This section may be further broken down into an operations team and a maintenance team as shown in figure 3.

- (1) The operations team installs and operates the Telephone Switchboard Group AN/MTA-3, and provides information and Directory Service.
- (2) The maintenance team installs, operates, and maintains the Telephone Connecting and Switching Group AN/MTA-4. This team also provides that level of maintenance, formerly known as third echelon, for the Telephone Switchboard Group AN/MTA-3.

*c.* The wire-telephone installation section consists of a wire operations supervisor and addi-

tional personnel necessary to install, operate, and maintain the internal telephone system for the supported headquarters. This section is equipped with a Communications Patching Panel SB-611/MRC, assorted cable assemblies, reeling machines, telephone sets, field wire, trucks, and miscellaneous small items necessary to install, operate, and maintain the internal telephone system. For normal operations, this section can be broken down into team organizations as shown in figure 3 and explained below:

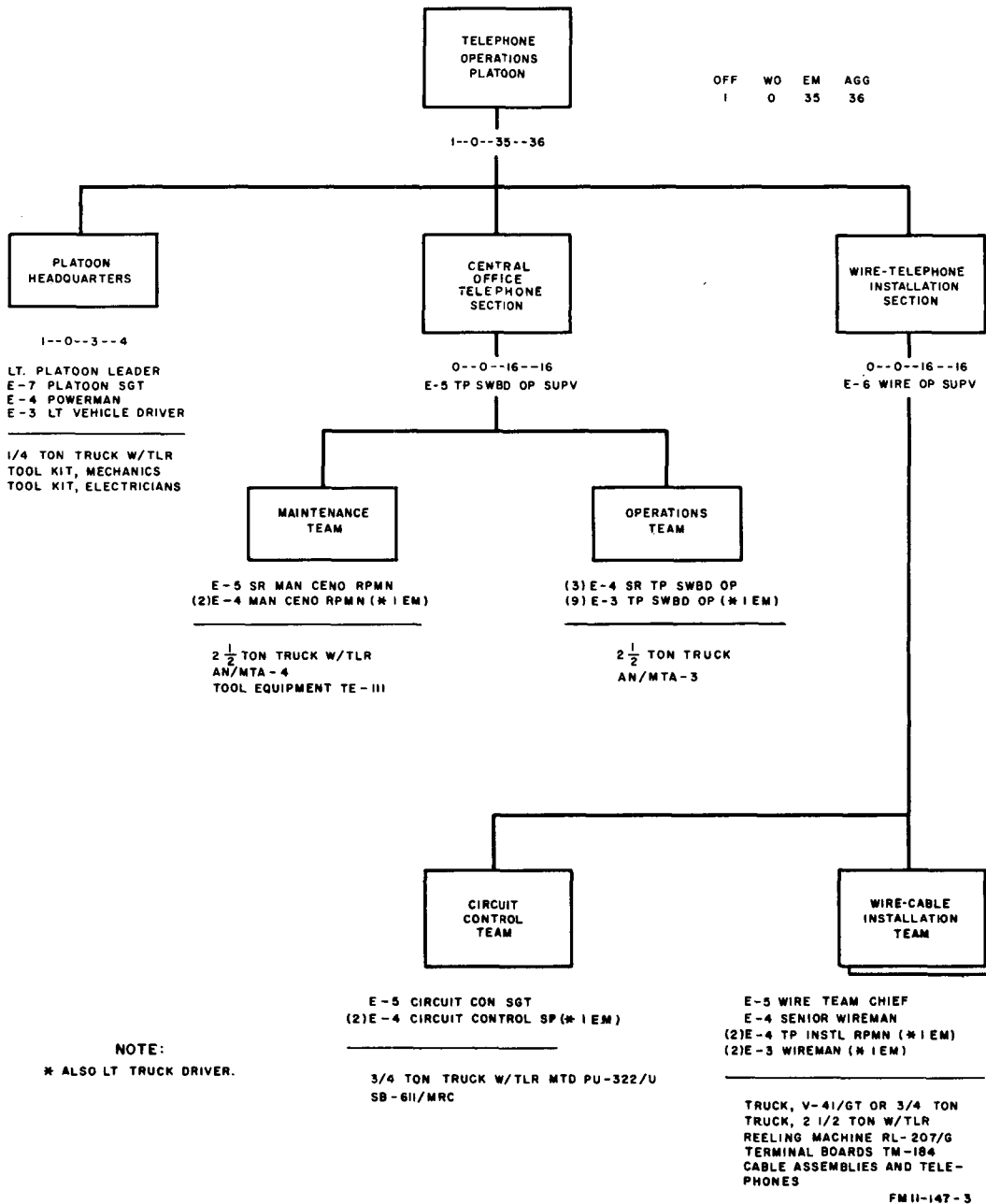
- (1) The wire operations supervisor coordinates and directs team operations.
- (2) The circuit control team consists of a circuit control sergeant (NCO) and two (2) circuit control specialists. This team is equipped with Communications Patching Panel SB-611/MRC mounted on a  $\frac{3}{4}$ -ton truck and a trailer-mounted Gasoline Engine Generator Set PU-322/U.
- (3) The two identical wire-cable installation teams consist of a wire team chief (NCO), a senior wireman, two (2) telephone installer repairmen and two wiremen. The equipment allocated to each team may vary according to the mission assigned each team.

## 20. Mobile Radio Section

The mobile radio section (fig. 4) consists of a section headquarters and three (3) identical mobile radio teams. This section establishes, operates, and maintains three secure radio teletypewriter stations for the supported headquarters.

*a.* The section headquarters is made up of a section leader, a chief radio teletypewriter operator (NCO), a radio repairman, and a powerman.

- (1) The section leader, assisted by the chief radio teletypewriter operator, provides direction and supervision for section operations.
- (2) The radio repairman provides that level of maintenance, formerly known as third echelon, for the radio equipment of the section.



*Figure 3. Type organization of the telephone operations platoon.*

(3) The powerman provides organizational maintenance for the gasoline engine generating equipment for the section.

b. The three (3) identical radio teams consist of a radio teletypewriter team chief (NCO)

and three (3) radio teletypewriter operators. Each team is equipped with a 2½-ton truck mounting Radio Set AN/GRC-26 and a trailer-mounted Gasoline Engine Generator Set PU-474/M.

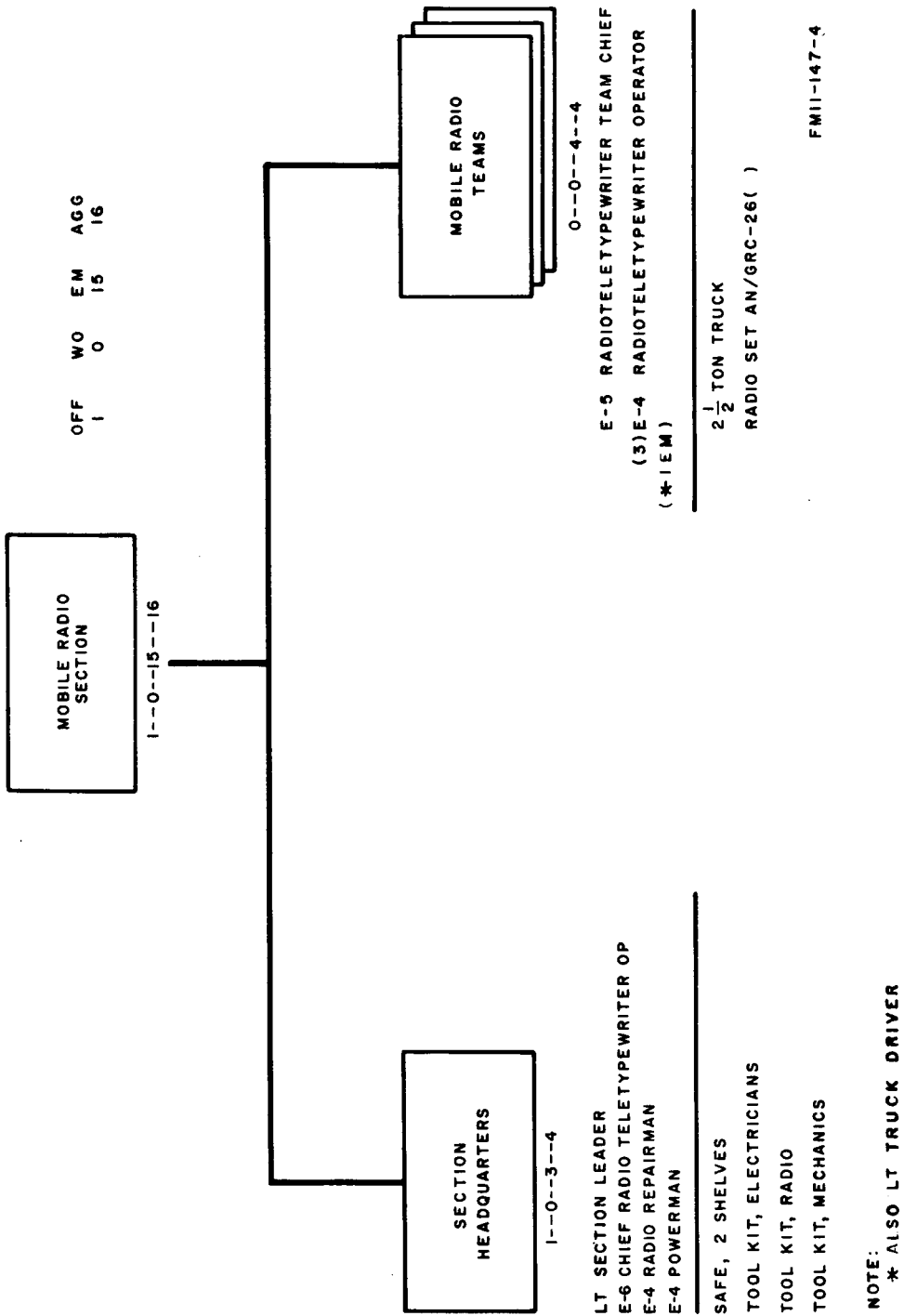
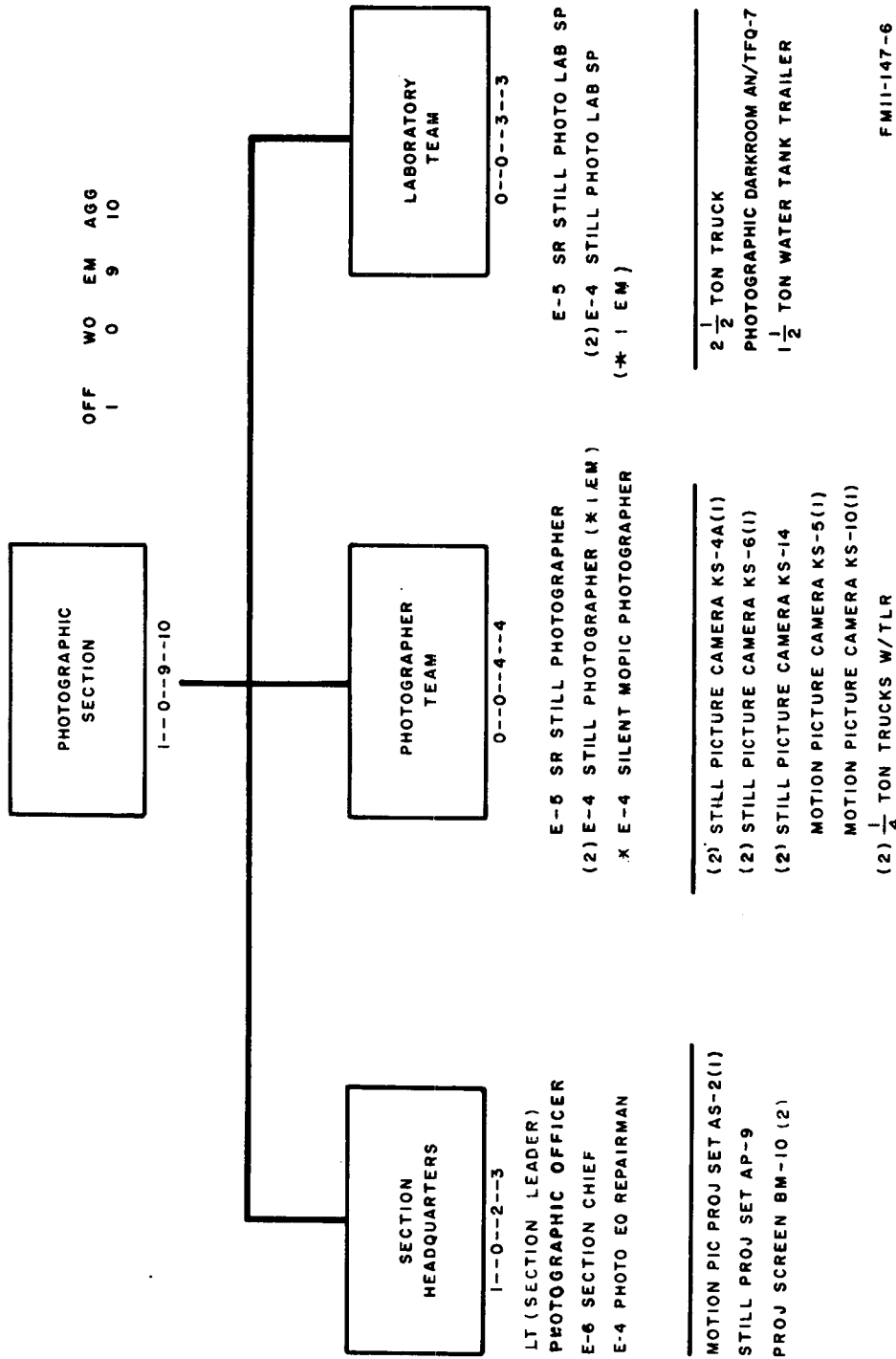


Figure 4. Type organization of the mobile radio section.



NOTE :

\* ALSO LT TRUCK DRIVER

Figure 5. Type organization of the communications center platoon.



## 21. Communications Center Platoon

The communications center platoon (fig. 5) consists of a platoon headquarters, a message center section, and a teletypewriter operations section. The platoon installs, operates, and maintains facilities for processing and transmitting message traffic for the supported headquarters.

a. The platoon headquarters consists of a platoon leader, a platoon sergeant, and a powerman.

- (1) The platoon leader, assisted by the platoon sergeant (NCO), provides command, direction, and supervision of platoon operations.
- (2) The powerman provides organizational maintenance for the gasoline engine generating equipment of the platoon.

b. The message center section consists of a section leader, a crypto technician, a signal message center supervisor, and additional personnel necessary to operate the message center facilities of the platoon. Figure 5 shows a type organization of personnel into operating teams. This is only a guide and operational conditions may require modification of the team organization. The message center section is equipped with a Message Center AN/GSQ-80 mounted on a 2½-ton truck, off-line crypto equipment, Facsimile Set AN/TXC-1, and miscellaneous items required to install and operate a message center.

c. The teletypewriter operations section consists of a section chief and the necessary personnel to install, operate, and maintain two Telegraph Terminals AN/MSC-29. The terminals provide secure and non-secure teletypewriter terminal facilities and limited teletypewriter switching for the communications center. The section may be organized into two

identical teams as shown in figure 5. This section is authorized two Telegraph Terminals AN/MSC-29 mounted on 2½-ton trucks, a repair shop mounted on a 2½-ton truck, a Gasoline Engine Generator Set PU-294/G, on-line Security Equipments TSEC/KW-7, and miscellaneous equipment to install, operate and maintain teletypewriter terminal and switching facilities of the platoon.

## 22. Photographic Section

The photographic section (fig. 6) consists of a photographic officer (section leader), section chief (NCO), and the necessary additional personnel and equipment to provide photographic services for the supported headquarters.

a. The section headquarters consists of the section leader, section chief, and a photographic equipment repairman. The section headquarters provides direction and supervision of the photographic effort of the section and provides photographic equipment repair for the section.

b. The photographic team consists of a senior still photographer, two (2) still picture photographers, and a silent motion picture photographer. The photographic team is equipped with still and motion picture cameras and two ¼-ton trucks with trailers.

c. The laboratory team consists of a senior still photographic laboratory specialist and two still photographic laboratory specialists. The team is equipped with a photographic Darkroom AN/TFQ-7 mounted on a 2½-ton truck. The truck pulls a trailer-mounted Gasoline Engine Generator Set PU-248/U or PU-256/U. The section provides still picture processing for the photographic section. Exposed motion picture processing for the photographic section. Exposed motion picture film is forwarded to theater army pictorial units for processing.

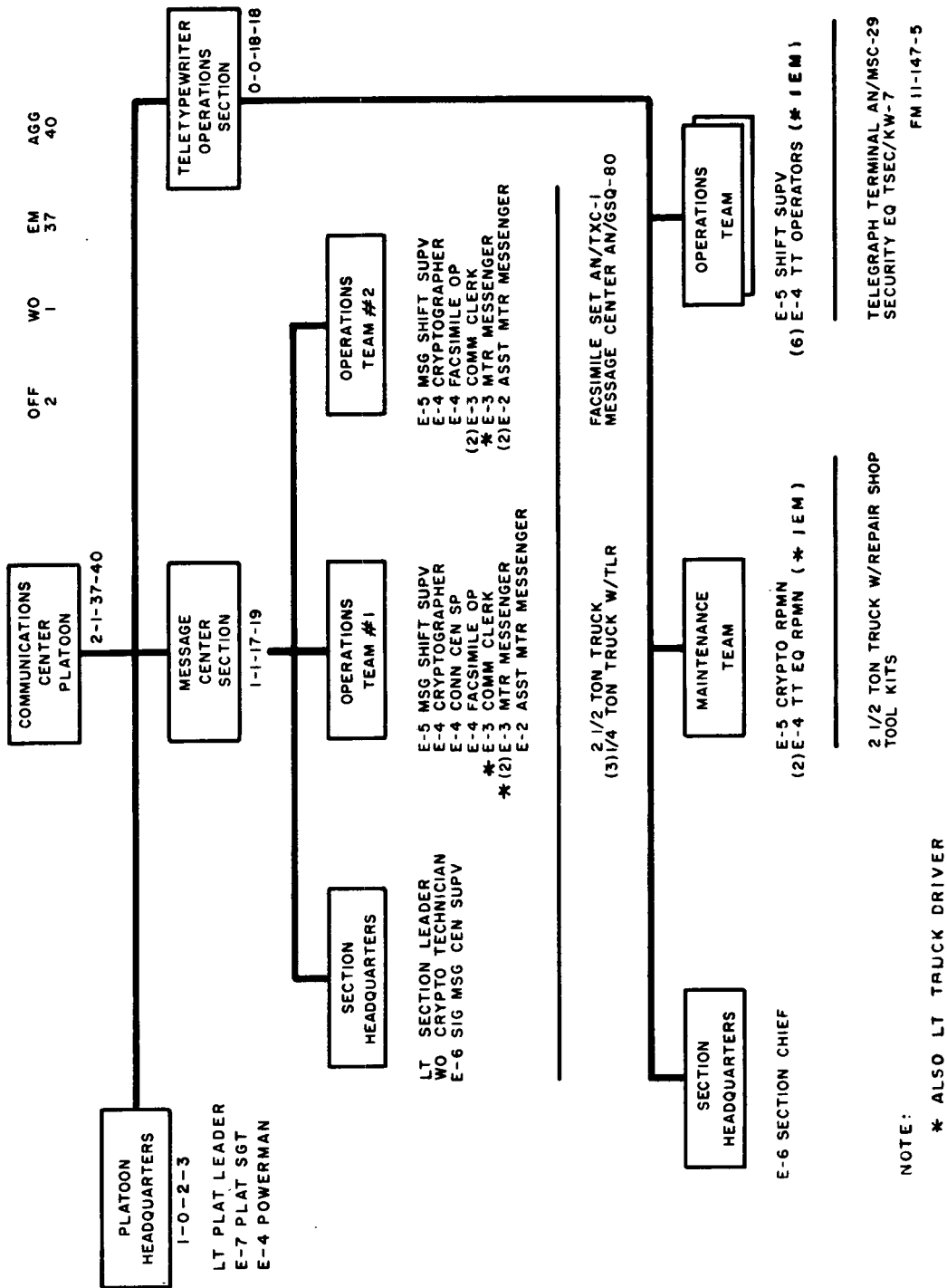


Figure 6. Type organization of the photographic section.

## CHAPTER 4

### COMPANY MISSION OPERATIONS

---

#### 23. General

The signal small headquarters, operations company is organized and equipped to provide internal communications facilities and photographic services (except aerial combat surveillance and processing motion picture film) for the supported headquarters.

a. Figure 7 shows a type of signal equipment configuration, less photographic, that can be installed, operated, and maintained by the signal small headquarters, operations company. The type system can be modified to varying requirements due to the military situation, type of supported headquarters, terrain, or other local conditions.

b. Before the system is installed within the headquarters area, a reconnaissance of the area should be made. During the reconnaissance, the following factors should be considered:

- (1) Siting the equipment to facilitate internal cabling between equipments.
- (2) Siting the communications facilities to best serve the supported headquarters.
- (3) Siting the trunk terminals to facilitate cabling to the communications patching panel.

c. The details of planning, installing, operating, and maintaining the communications facilities, shown in figure 7, are discussed in the remainder of this chapter. This chapter also contains the details of messenger and photographic services provided by the company.

#### 24. Command Relationships

a. The command relationships between the signal operations company and the supported headquarters cannot always be predetermined. These relationships will depend on the type of supported headquarters; the desires of the sig-

nal officers of the theater army and the field army; and the extent of signal control exercised by these commands. However, there are certain functions of signal control and coordination that should be standard for most situations.

b. Regardless of whether this unit is assigned to the Field Army Signal Brigade and attached to a FASCOM element to provide communications support or assigned to the Theater Army Signal Command and attached to a TASCOM element to provide communications support, the following basic command and technical-operational control principles apply:

- (1) As defined in AR 320-5, the term attachment normally carries with it the transfer of operational control. It does not normally carry with it the authority for the Commander of the unit to which another unit is attached, to promote, transfer, relieve or otherwise conduct personnel actions concerning individuals assigned to the attached unit.
- (2) In as much as the Field Army Signal Officer (Signal Brigade Commander) and the Theater Army Signal Officer (Theater Army Signal Command Commander) are technically responsible to their respective Commanders, for the effectiveness of communications throughout their respective areas of command, all subordinate command signal/communications elements must be considered as "under the technical control" of these individuals.
- (3) Employing the rationale of (1) and (2) above, when this unit is attached to a FASCOM or TASCOM element, unless specifically indicated otherwise

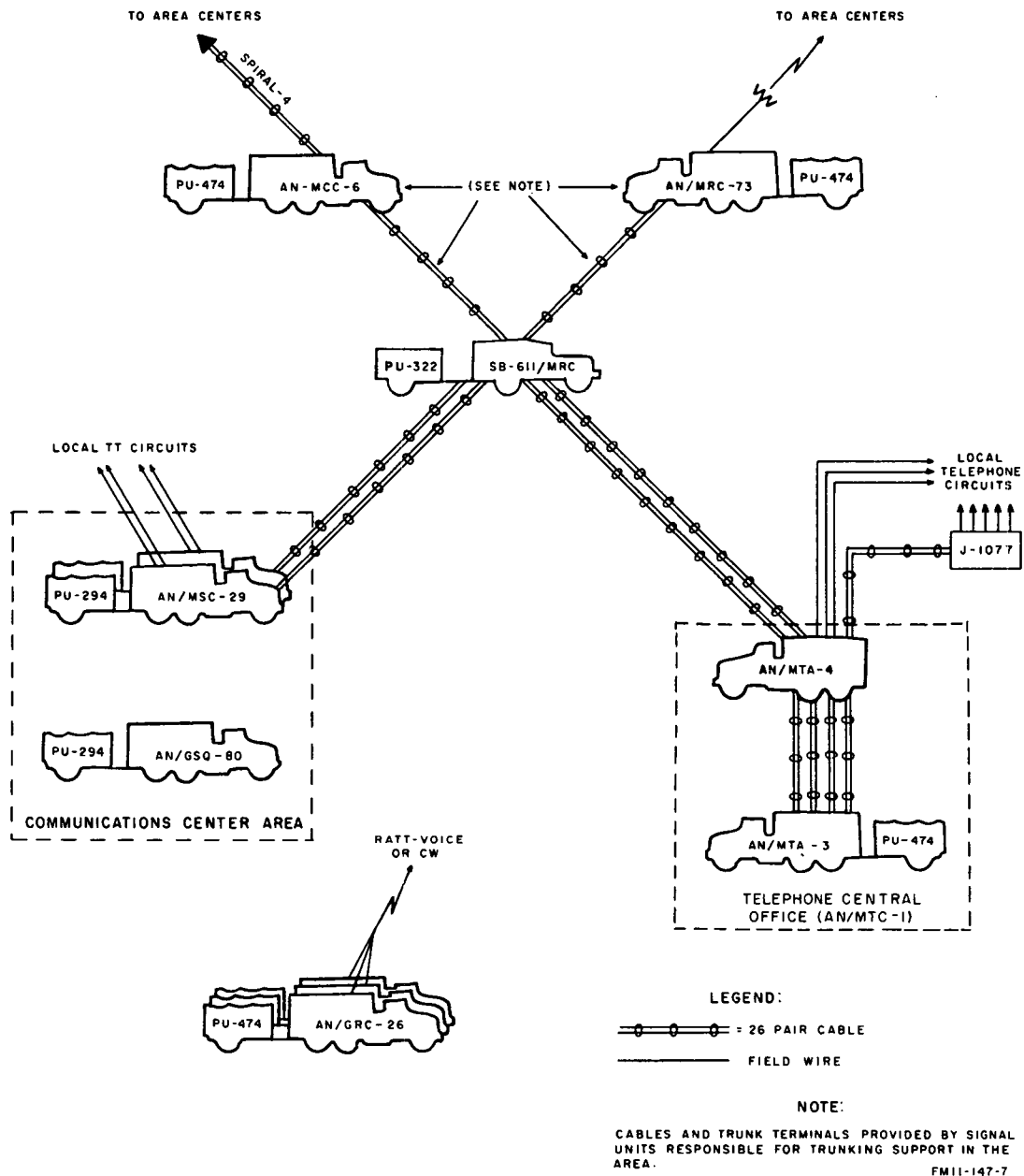


Figure 7. Type signal equipment configuration of the signal operations company.

in the attachment order, the supported element commander through his Staff Signal Officer, will exercise operational control of this unit. The Staff Signal Officer and the Company Commander will remain responsive to such technical control directions from the Theater Army Signal Officer (Theater

Army Signal Command Commander) and/or the Field Army Signal Officer (Field Army Signal Brigade Commander), involving technical operational requirements of the overall communications systems, as may be issued from time to time.

## 25. Telephone Operation Platoon Headquarters

This platoon headquarters plans the layout and supervises the installation, operation, and maintenance of the communications equipment for patching, telephone switching, and local telephone and teletypewriter circuits as shown in figure 7. Platoon headquarters must also coordinate with the signal operating units responsible for trunking facilities for the provision and installation of these facilities.

a. The layout of the equipments should be arranged to provide ease of cabling between each piece of equipment. The siting of the communications patching panel (SB-611/MRC) is of utmost importance, since most of the communications equipments are cabled to this facility. The communications patching panel should be centrally located within the communications area of the supported headquarters to facilitate internal cabling.

b. Prior to a move, all personnel not required for normal duties should be used to disassemble and load equipment and, after the move, used for the initial installation at the new location. Cross training of switchboard operators and central office repairmen in wire-cable installation will make these personnel proficient in installation duties. By using all available personnel, it will reduce the disassembly and installation time and provide better service to the supported headquarters.

## 26. Central Office Telephone Section

The central office telephone section installs, operates, and maintains the manual Telephone Central Office AN/MTC-1, and provides information and directory service for the supported headquarters. The AN/MTC-1 consists of a shelter-mounted Switchboard Group AN/MTA-3 and a shelter-mounted Connecting and Switching Group AN/MTA-4. The AN/MTA-3 and AN/MTA-4 must be sited close together since the interconnecting cables are 25-foot lengths.

a. To install the telephone central office, proceed as follows:

- (1) Site the AN/MTA-3 and the AN/MTA-4 within 25 feet of each other.

- (2) Move the power generating equipment away from the telephone central office so that the noise from the generators will not interfere with normal operations.
- (3) Install a power cable from the generator equipment to the "in" terminal in the power and signal entrance box of the AN/MTA-4. Install another power cable from the "out" terminal of the power and signal entrance box on the AN/MTA-4 to the "in" terminal of the power and signal entrance box on the AN/MTA-3.
- (4) Start the gasoline engine generators to provide power to both shelters.
- (5) Interconnect the two shelters with the 25-foot cables provided.
- (6) Connect the AN/MTA-4 to the communications patching panel with the 26-pair (250-foot) cable provided.
- (7) Check each local and trunk circuit as they are connected to the AN/MTA-4.
- (8) When all circuits are checked and operational, the manual telephone central office is ready for normal operation.
- (9) Both shelter-mounted equipment should be properly grounded. For proper procedure see equipment TM.

b. Normal operations and maintenance of equipments are discussed in the technical manuals of the equipment and maintenance records in TM 38-750. Maintenance of equipments is a continuous process; however, routine maintenance should be performed when it will least interfere with operations. Emergency maintenance is provided as required.

c. The TOE provides a telephone switchboard operator supervisor for over-all supervision of the operations of the AN/MTA-3. Three senior telephone switchboard operators and nine telephone switchboard operators are assigned which provide for four switchboard operators for each of the three 8 hour shifts. This authorizes an operator for each of the three switchboard positions and one operator for the information position. The switchboard should be fully manned at all times; however, during the low

traffic periods one or more of the operators on duty, depending on the volume of traffic, can perform operator maintenance on the vehicle (2½-ton truck), shelter and switchboard group AN/MTA-3.

## 27. Wire-Telephone Installation Section

The wire-telephone installation section is responsible for the installation, operation, and maintenance of the Communications Patching Panel SB-611/MRC, and for the installation and maintenance of local telephone and teletypewriter cable and wire circuits. The communications patching panel forms the heart of the communications system for the supported headquarters; thus, it is extremely important that this facility be given a high priority of installation. The communications patching panel should be centrally located to provide access for 26-pair cables providing local and trunk circuits. Circuits are connected to the patching panel to provide a means for arranging, rearranging, controlling, and troubleshooting the circuits.

*a.* During the initial installation, all available personnel of the section should be used. Switchboard operators, central office repairmen, and circuit control specialists, not required for their normal duties, can form wire-cable installation teams to assist in the installation. The organization of teams will depend on the local situation.

*b.* Field wire and/or 26-pair cable may be used to provide local telephone and teletypewriter circuits. When 26-pair cables are used, Junction Box J-1077 will provide entry points for local circuits (see fig. 7).

*c.* For normal operations, wire-cable installation teams may be organized as shown in figure 3.

*d.* Trunk circuits are provided by other signal operating units in the area. The trunk circuits are connected from the trunk terminals to the communications patching panel by 26-pair cables. The circuit control specialists, in the communications patching panel, patch telephone trunk circuits through the patch panel to the AN/MTC-1, and teletypewriter trunk circuits to the AN/MSC-29. Trunk circuits that are sole-user circuits are patched through the

patching panel to the terminal equipment terminating those circuits.

*e.* The trunk terminal facilities, to include the 26-pair cables connecting to the patching panel, are the responsibility of the signal unit providing the trunk circuits. However, the wire-cable installation section may be required to render assistance in the installation of trunk facilities.

*f.* All wire and cable installed within a command post area should be installed underground or overhead. This protects the wire and cable from danger by vehicular traffic within the command post. Consult FM 24-20 for proper underground and overhead installation.

*g.* Local conditions will dictate the organization of duty shifts to install new circuits, rearrange existing circuits, and operate and maintain the equipment of this section. Duty shifts must be arranged to provide service on a 24-hour basis.

## 28. Mobile Radio Section

This section is equipped with three Radio Sets AN/GRC-26( ) to provide HF/AM radio communication for the supported headquarters. The sets can provide communications by radio teletypewriter (RATT), amplitude modulated (AM) voice, continuous-wave (CW), or a combination of RATT and AM voice. Normal range for these sets are 400 kilometers on RATT and CW and 160 kilometers on voice. The sets are normally operated as a RATT station, but may be operated on voice of CW when required. When the sets are used in combination RATT and voice, the voice signal is superimposed on the RATT signal without equipment modification. These sets may be operated full-duplex or one-way-reversible in net operation or to provide a point-to-point radio circuit.

*a.* Radio Sets AN/GRC-26( ) may be employed to provide—

- (1) Communications during the initial installation of the communications system for the supported headquarters.
- (2) A voice or CW station on the move, and a RATT station during halts, during the displacement of the supported headquarters.

- (3) RATT, voice, or CW station in a higher headquarters net during normal operations.
- (4) A point-to-point radio channel to a subordinate unit, or to terminate a point-to-point radio channel from higher headquarters.
- (5) Emergency CW communications when other methods of emission are less reliable due to poor atmospheric conditions.

b. Radio Sets AN/GRC-26 can be netted with other radio sets with similar characteristics such as the AN/GRC-46 and AN/VRC-29.

c. The radio stations may be sited near the communications center within the command post and operated from that location. However, if siting within the headquarters is not suitable, the sets may be located up to 10 miles from the headquarters area and operated by remote control (TM 11-5820-256). When the radio stations are located outside the headquarters area, provisions must be made for physical security of the radio stations.

d. Siting is the most important factor for proper operation of Radio Set AN/GRC-26. When selecting a site for the AN/GRC-26, consider the following:

- (1) Select a site on the highest ground in the area.
- (2) The site should be free of large buildings, trees, telephone lines, power transmission lines, and other electrical equipment.
- (3) Although the radio signal is not line-of-sight, masks in the line of operation should be avoided.
- (4) If two or more sets are located in the same site, care should be taken to separate the antennas as much as possible.
- (5) For additional information on siting Radio Set AN/GRC-26, refer to TM 11-5820-256-10.

e. For details of radio operations, refer to FM 24-18.

## **29. Communications Center Platoon Headquarters**

The platoon headquarters plans and super-

vises the layout, installation, operation, and maintenance of the communications center facilities for the supported headquarters. The platoon is equipped with a Message Center AN/GCQ-80 and two Telegraph Terminals AN/MSQ-29. The layout of the communications center facilities within the headquarters area will depend on the type of supported headquarters and the position of the other communications equipment of the company.

a. Factors to consider in the layout of the communications center are—

- (1) The location of facilities should facilitate message handling.
- (2) The message center should be located near the AG distribution center.
- (3) Facilities should be located as near the patching panel as possible to terminate the 26-pair cables in the AN/MSQ-29.
- (4) Coordination with the section leader of the mobile radio section on the location and use of those facilities.
- (5) Park the trucks mounting the AN/GSQ-80 and the AN/MRC-29 tail-gate to tail-gate to facilitate message handling between these facilities.

b. Prior to a move, all available personnel of the platoon should be employed to disassemble and prepare the equipment for movement at the old location and, after the move, install the equipment at the new location. This will require teamwork and detailed procedures established if the platoon is to move efficiently.

## **30. Message Center Section**

The message center section receives, logs, processes, and dispatches outgoing messages for transmission and incoming messages for delivery to the AG distribution center of the supported headquarters. Message handling procedures within the communications center are established and published in the platoon SOP. Message handling procedures are discussed in FM 24-17.

a. Generally, messages are handled by the message center as follows:

- (1) An outgoing message is received from

the AG distribution center, logged in, processed, encrypted if required, means of transmission selected, and passed to the means operator for transmission. After the message is transmitted, the time of transmission is entered on the message and on the operator's log, and the message is returned to the message center. In the message center, the time of transmission is entered on the message center log and the message returned to the AG distribution center.

- (2) An incoming message is received from the means operator, logged in, decrypted if required, and given to a messenger for delivery to the AG distribution center.
- (3) Close coordination should be established between the message center and the AG distribution center for the control of message traffic. This will reduce to a minimum the inquiry about messages handled between the two agencies.

*b.* The message center section encrypts a classified message prior to transmission when the message is to be delivered by messenger or when on-line crypto equipment is not used, and decrypts an incoming encrypted message before delivery to the AG distribution center.

*c.* The message center section installs, operates, and maintains the Facsimile Set AN/TXC-1. The facsimile set is used to transmit and receive maps, map overlays, photographs, and similar pictorial subjects. A good voice circuit is required for operation of this facility.

*d.* The message center team organization is shown in figure 5; however, the teams must be broken down into duty shifts for the operation of the message center on a 24-hour basis. The organization of duty shifts will depend on traffic conditions of the supported headquarters. A large number of personnel are required to process and handle messages during peak traffic periods and less personnel on duty when message traffic is relatively low.

*e.* The motor messenger teams of the message center play a vital part in the transmission of

message traffic in and out of the communications center. Motor messengers are used for delivery of—

- (1) Urgent messages when electrical means are not available or when messenger is the fastest means of delivery.
- (2) Bulky items.
- (3) Bulky, low priority messages to relieve the electrical means.
- (4) Clear text classified messages to a headquarters not equipped with cryptographic equipment.
- (5) Registered documents.

*f.* The three motor messenger teams of the message center section are used to provide two types of messenger service—scheduled and special. Scheduled messengers follow a prearranged time schedule and route for message delivery and pickup. Special messengers are dispatched when the urgency of a message requires their use.

*g.* Motor messenger teams are normally used between the echelons of a supported headquarters; however, they may be used for delivery of messages to subordinate or adjacent units.

*h.* The motor messenger teams are under the control of the message center supervisor. The message center supervisor will prepare messenger duty shifts and motor messenger schedules.

### 31. Teletypewriter Operations Section

The teletypewriter operations section transmits and receives teletypewriter message traffic for the communications center. The section is equipped with two telegraph Terminals AN/MSQ-29 and a repair shop mounted on 2½-ton trucks. The telegraph terminals provide teletypewriter terminal sets, on-line cryptographic devices, and a voice frequency switchboard to switch teletypewriter circuits.

*a.* During the initial installation of the communications center, the teletypewriter operations section functions as follows:

- (1) Sites the AN/MSQ-29 tail-gate to tail-gate with the AN/GSQ-80 and as near as possible to the patching panel.
- (2) Moves the power generators away



from the AN/MSC-29 to reduce noise, and installs the power cables from the generator equipment to the "in" terminal in the power and signal entrance box on the AN/MSC-29.

- (3) Installs the 26-pair cables from the AN/MSC-29 to the patching panel.
- (4) Connects local and trunk teletypewriter circuits to the teletypewriter switchboard and tests and checks circuits. When all circuits are operational, the section can revert to normal operations.

b. Normally, this section functions as follows:

- (1) Receives an outgoing message from the message center section, enters the message number on the operator's log, transmits the message, enters the time and date of transmission on message form and operator's log, and returns the message to the message center section.
- (2) An incoming message is received from the distant station. Time and date of receipt and message number are entered on the operator's log and on the message form, and the message is passed to the message center section.
- (3) In order to conserve circuit time, tapes should be prepared of outgoing messages and then the tapes transmitted by automatic transmission.

c. This section is responsible for teletypewriter and cryptographic maintenance of section equipment. The crypto and TT equipment repairmen are provided a shop truck in which to work. Routine maintenance is scheduled when traffic is low, and the emergency maintenance is performed as required. The crypto equipment repairman is responsible for maintenance of the cryptographic equipment used in the communications center platoon and the mobile radio sections.

### 32. Photographic Section

The photographic section provides the supported headquarters with intelligence, operational record, information, and miscellaneous

photography. Miscellaneous photography includes accident, medical, training, and identification photography. The section is capable of still and motion picture coverage, and processing of still film. Exposed motion picture film is forwarded to a theater army photographic laboratory for processing.

a. The photographic section may be organized as shown in figure 6, or this organization may be adapted to local conditions.

b. The photographic section headquarters performs the following functions:

- (1) Plans and controls the operations of the photographic section.
- (2) Receives photographic requests from staff sections of the supported headquarters.
- (3) Analyzes the requests to determine the best method of coverage.
- (4) Assigns photographic missions to the photographic teams and briefs the photographers.
- (5) Supervises the photographic mission and laboratory processing.
- (6) Prepares job orders and forwards motion picture film to a designated theater army pictorial laboratory for processing.
- (7) Receives the finished product and forwards the required number of prints to the staff section making the request.
- (8) Coordinates the provision of photographic supplies with company headquarters.
- (9) Plans and provides photographic equipment repair for the section.
- (10) Controls the use of the still and motion picture projectors and screens.

c. The photographic team is equipped with the necessary still and motion picture cameras that provide the team with the capability of all types of ground photographic coverage. In addition, the team is provided two 1/4-ton trucks with trailers which provide team mobility. The team is capable of providing coverage within the headquarters or they can move to subordinate headquarters and installations to perform photographic missions. The team performs the following functions:

- (1) Receives photographic missions and briefings from section headquarters.
- (2) Moves to the subject area and makes the necessary photographic coverage.
- (3) Still photographers forward the photographic request and exposed still film to the photographic laboratory for processing.
- (4) Motion picture photographers forward the photographic request and exposed motion picture film to section headquarters.
- (5) Coordinates photographic equipment repair with the photographic equipment repairman.
- (6) Coordinates photographic supplies with section headquarters.

*d.* The photographic laboratory team develops still film and processes photographic prints as directed by the photographic request. This team performs the following functions:

- (1) Receives photographic requests and exposed still film from the still photographers.
- (2) Develops the exposed film and processes the required number of prints.
- (3) Forwards the photographic request, negative, and prints to the section headquarters.
- (4) Coordinates photographic equipment maintenance with the photographic equipment repairman.
- (5) Coordinates photographic supplies with section headquarters.

### 33. Trunking Facilities

The trunk circuits that are provided to support the operations of the signal small headquarters, operations company, are not the responsibility of this company. These circuits are provided by other signal operating units of the theater army or the field army signal organization. Normally, these circuits will be provided by radio relay or spiral-four cable links connecting the communications system operated by the signal operations company to the long distance trunking system in the area. Whether these circuits are provided by radio

relay or spiral-four cable links, there are some technical and operational problems that must be coordinated between the signal units involved. The principal problems are—

- a.* Time and place the trunk circuits are required.
- b.* Number of trunk circuits required.
- c.* Location of the trunk terminal facilities.
- d.* Connection of the 26-pair cables from the trunk terminal facilities to the patching panel in the supported headquarters area.
- e.* Operational and technical coordination required between the signal small headquarters, operations company and the signal units providing the trunk circuits.

### 34. Displacement

The displacement of the supported headquarters, and consequently the signal small headquarters, operations company may occur at any time depending on the tactical or combat service support situation. When the signal company is ordered to displace, the company must coordinate its move with the supported headquarters. This company is not capable of moving in echelon; thus, the company must tear down the communications system, load, move, and install the communications system at the new location.

*a.* When a move is being planned, the commander of the signal company should notify the signal organization providing trunking facilities of the imminent move. As soon as the date and time of the move are firm, he should notify the signal organization when trunk facilities can be discontinued at the old location and when trunking facilities will be required at the new location.

*b.* During displacement, particularly during counterinsurgency operations, communications should be maintained between the lead element and rear element of the convoy, and between the convoy and aircraft providing column cover. In addition, communications between elements of the march column and superior and subordinate headquarters may be required. To provide the above communications, the company's equipment may be employed as follows:

- (1) The three Radio Sets AN/GRC-26 can

provide voice or CW communications on the move, and RATT communications during halts.

- (2) Motor messengers can be used to deliver message traffic between the moving headquarters and superior and subordinate headquarters. In addition, motor messengers provide an excellent means for delivering messages between elements of the march column.
- (3) During the actual march, the above communications facilities should be located near the commander and staff vehicles to provide them communications support.
- (4) Upon arrival at the new location, the above communications means can pro-

vide communications until other communications means are established.

*c.* The movement of the signal company will require the support of all available signal personnel of the company. When the communications are installed and in normal operations at the new location, the company can revert to normal duty shifts.

*d.* A reconnaissance of the new area should be made prior to arrival. This reconnaissance should be made by the company commander and key personnel of the company. During the reconnaissance, many problems of installation of communications facilities within the headquarters can be determined and actions taken to eliminate them or reduce their effect.

## CHAPTER 5

### COMPANY ADMINISTRATION OPERATIONS

---

#### 35. General

The administrative functions of the signal small headquarters, operations company are very similar to most signal operating companies. Company administrative operations will be centered in the company CP. However, the company commander should never become tied to the company CP at the expense of performing command visits and inspections of company mission operations. In addition to command visits and inspections, the company commander must keep the platoon and section leaders advised of command policies and procedures. The most common methods of informing and coordinating subordinates are through informal discussions, timely orders, and a detailed company SOP. Details of preparation of signal orders and SOP are contained in FM 24-16.

#### 36. Company Command Post

The company CP should be established near the communications installations to facilitate command and control of company operations. The company commander is not provided an officer staff to assist him in establishing and operating the CP. Thus, he must rely on his noncommissioned officers. The noncommissioned officers are the first sergeant, supply sergeant, motor sergeant, and mess steward. The company commander will normally form an operational staff consisting of the platoon and section leaders to keep him informed of mission operations. The operational staff may function on an informal basis, or the commander may require briefings on a regular schedule.

#### 37. Personnel Management

Personnel records are located and maintained in the company CP. Because of this, there must be daily coordination between the platoon and section leaders and the administrative person-

nel of the company CP. This is necessary to coordinate duty rosters, sick call, leaves, pay, mail, promotions, citations, rotation, and many other personnel matters that will require day-to-day attention. Proper personnel management will build morale and add materially to the quality of mission operations.

#### 38. Mess Management

a. The signal small headquarters, operations company is equipped to establish and operate a company mess on a 24-hour basis. The company mess is under the direct supervision of the mess steward. He prepares cook duty rosters, ration requests, and supervises food preparation and serving. The mess steward coordinates with company headquarters for the provision of kitchen police (KP).

b. Since the signal small headquarters, operations company is normally associated with a particular headquarters, it is possible that the headquarters commander may direct a general consolidated mess operation. When so directed, the mess personnel of the company will be detailed to the consolidated mess facility. This, however, does not relieve the company commander of the details of messing his troops. He must coordinate with the consolidated mess facility functions of the mess such as company mess personnel for duty, KP, number of signal troops to be fed, and the hour of messing.

#### 39. Supply Management

The acquisition and distribution of supplies is essential to the accomplishment of the company mission. The company commander must be familiar with the status of supplies and equipment within his organization and must plan the logistical support required for continuing company operations. He must insure that the company supply records are accurate and

that supply procedures within the company will provide an adequate steady flow of supplies to the operating platoons and sections. The company commander is assisted in this function by the company supply sergeant. A consolidated supply activity is established at the company CP to insure that each operating platoon and section is provided its normal TOE equipments and adequate expendable supplies. Since the company performs maintenance for its organic signal equipment, care must be exercised that an accurate and current prescribed load list (PLL) is maintained. The details of supply operations may vary according to the wishes of the commander; however, these procedures must conform to AR 735-35.

a. Company supply records are maintained for TOE and TA property and individual clothing and equipments.

- (1) Normally, the company property book is established and maintained by the supply sergeant at the company CP. The platoons and sections are issued TOE property on hand receipt. If the equipment becomes inoperative due to negligence or fair wear and tear, the equipment is disposed of and replacements requisitioned according to the provisions of AR 735-35.
- (2) The records for individual clothing and equipment are also maintained by the supply sergeant at the company CP. Each individual soldier is issued clothing and equipment according to the appropriate table of allowance, and each soldier is responsible for the proper care and use of his individual clothing and equipment. Replacements for individual clothing and equipment are requisitioned through regular supply channels supporting the company.

b. Company records are not required for expendable supplies; however, the company commander should insure that each platoon and section exercises supply economy. Expendable supplies are requested by the operating platoons and sections from the company supply sergeant on an informal basis. The company supply sergeant consolidates these requests and forwards the formal consolidated requisition to the sup-

ply activity supporting the company. When the requested supplies are received at company CP, the supplies are segregated according to each platoon and section request and delivered to the platoons and sections.

c. Supply procedures and techniques for counterinsurgency operations will require special planning because of the hazards encountered along roads and the great dependence on aerial supply. Supply planning must consider the stockage of larger quantities of essential items and planning the resupply well in advance of the normal requisitioning cycle.

#### 40. Maintenance Management

Maintenance of company equipment is the responsibility of the company commander. The company commander must insure that the equipment issued to his command is properly maintained, and that the equipment is properly used and given proper care. The platoon and section leaders assume supervisory responsibility for the equipment issued on hand receipt to their platoons and sections, and the equipment operators assume direct responsibility for the equipment they operate. The company commander, the platoon and section leaders, and the equipment operators all have specific and well defined responsibilities for the maintenance and care of government equipment. These responsibilities are designated in appropriate Army Regulations of the AR 750-series. Normal organizational maintenance will be performed on a scheduled basis. Maintenance forms will be utilized as prescribed in TM 38-750. Company maintenance can best be performed when the maintenance personnel are properly employed, adequate repair parts are provided, and maintenance inspections are properly conducted.

a. The maintenance personnel of the signal small headquarters, operations company are employed as follows:

- (1) At company headquarters, organizational motor maintenance is performed under the supervision of the motor sergeant. The motor sergeant establishes a consolidated motor maintenance shop in the company CP area for those company vehicles that can be moved to the shop for maintenance.

Those vehicles mounting shelter equipments which cannot be moved to the motor maintenance shop must be maintained on-site.

- (2) Organizational small arms maintenance is performed in a consolidated maintenance shop in the supply tent at the company CP. The supply sergeant is responsible for organizational small arms maintenance.
- (3) Each operating platoon and section are provided electronics maintenance personnel to provide that level of maintenance, formerly known as third echelon, on operating equipment. The mobile radio sections are provided crypto maintenance by the crypto repairmen of the communications center platoon. These maintenance personnel provide on-site maintenance of equipments on a scheduled or emergency basis.
- (4) The telephone platoon, the mobile radio section, and the communications center platoon are provided powermen to provide on-site organizational maintenance of gasoline engine power generators. The powermen normally are employed under the direct supervision of the platoon and section leaders.
- (5) Maintenance in counterinsurgency operations requires continuous emphasis on preventive maintenance to insure equipment operation under adverse conditions. Mobile maintenance teams should be available to make periodic on-call visits to service the equipment of the operating sections or teams that are widely dispersed.

b. When the maintenance organizational equipment exceeds the capabilities or capacities of the company, arrangements are made for necessary maintenance with the supporting direct support maintenance unit. This procedure is followed for all company material except medical, communications security, clothing, bedding, and light textiles.

- (1) Support for medical material is provided by the medical activity serving the area.

- (2) Maintenance and repair parts support for communications security equipment is provided by the supporting general support activity in the area in accordance with procedures established by that activity.

- (3) Maintenance support for clothing, bedding, and light textiles is provided by the supporting supply and services direct support battalion, normally on a direct exchange basis.

c. When general support maintenance is required, the direct support maintenance unit arranges for the evacuation of materials to the appropriate supporting general support maintenance unit.

d. For details on maintenance operations, refer to FM 29-22.

e. The repair parts supply procedures for the company will depend on the situation. Normally, repair parts for the operating platoons and sections are coordinated by the signal supply-parts specialist of the supply activity in the company CP. The platoons and sections request repair parts on an informal basis from the supply activity and the signal supply-parts specialist consolidates these requests and forwards the consolidated request to the repair parts company of the general support group. When the repair parts are received at the company CP, the signal supply-parts specialists segregate the parts according to the platoon and section requests and deliver the repair parts to the platoons and sections. There must be very close coordination between the signal supply-parts specialist at the company CP and the electronics maintenance and powerman operating with the platoons and section. This coordination is necessary to identify parts and to maintain a steady flow of repair parts for the company. Normally the signal supply-parts specialist will monitor the PLL to insure completeness and accuracy, and will initiate changes to the supporting organization.

f. Signal maintenance inspection are conducted as prescribed by AR 750-8. Signal maintenance inspections provide a means for the company commander to insure that proper maintenance is being performed on all major items of organizational equipment. Main-

tenance inspections for the platoons and sections should be conducted at a time that will not materially disrupt operations. The platoon and section leaders should be informed 12 hours in advance of the inspection, if the inspection is to be formal; however, notification is not required when the inspection is informal.

#### 41. Company Training

The combat effectiveness of the signal small headquarters, operations company will depend on the status of training of the unit. This training includes individual, team, section, and platoon training. A soldier is first trained as a soldier and then as a specialist. Some of the specialists of the company are school trained, while other specialists are unit trained. Common specialists such as cooks, clerks, truck drivers, and mechanics must be trained in unit schools, training centers, or service schools. However trained, all specialists must be given refresher training in unit schools, on-the-job training, or service school refresher training to keep and to improve their skills.

a. The company commander should establish, in accordance with the platoon and section leaders, a method of on-the-job cross training personnel in related skills. For example, a central office repairman may be trained on-the-job to become proficient in wire-cable installation. Cross training provides greater flexibility in the employment of company personnel and will result in greater efficiency in company operations.

b. A newly activated unit can get much of their training support from the G3 section of the post, camp, or station on which they are based. This support will include training literature, training area, training aids, and instructor support.

c. The company commander and the platoon and section leaders should be familiar with the army training literature provided to train army units. The most important ones are: army training programs (ATP), army training tests (ATT), army subject schedules, field manuals, and equipment technical manuals. Army training literature applicable to the signal small headquarters, operations company, is listed in appendix I.

#### 42. Company Security

The security of the signal small headquarters, operations company is a command responsibility. Security of signal installations must be coordinated with the supported headquarters. However, this does not relieve the company commander of the responsibility for the security of signal installations, signal equipment, or signal personnel under his command. A security plan for the company, coordinated with the security plan of the supported headquarters, should be developed and included as part of the company SOP.

a. Some of the aspects of security that must be considered for limited or general warfare are—

- (1) Camouflage and concealment of company installations against air, ground, CBR, and nuclear attack.
- (2) The protection afforded by natural obstacles such as rivers, forests, swamps, and mountains.
- (3) The use of guard posts and alarm systems.
- (4) Protective measures to be taken before, during, and after nuclear, chemical, and biological attack.

b. Some of the aspects of security for counterinsurgency operations are—

- (1) Personnel must be fully trained in the use of unit weapons and be continually alert for insurgent attacks.
- (2) Additional heavy weapons, not organic to the company, may be required for employment in the defense of the company. In addition, grenades, trip flares, mines, and barbed wire may be required to protect signal installations against insurgent attacks.
- (3) Communications equipment must be dug-in and revetted to offer maximum protection against insurgent attacks and sabotage.
- (4) Adequate protection must be provided signal equipment and personnel during displacement (para 34).

#### 43. Motor Movement

Normally, the signal small headquarters, op-

erations company will move with the supported headquarters and the movement will be in accordance with the command SOP or administrative order. However, the company commander and platoon and section leaders will be required to plan the loading of vehicles, form march columns, and move as directed. To facilitate the movement of the company, a loading plan for company vehicles should be developed. Since this company is 60% mobile, additional vehicles are required to move the company in one motor run. If additional vehicles cannot be provided, the company must move using organic vehicles and two or more motor runs will be required to move the company. In addition to the movement of the company, communications facilities for the supported headquarters must be provided during the movement. Communications facilities for the supported headquarters during displacement is discussed in paragraph 34.

#### **44. Company Standing Operating Procedures (SOP)**

An SOP is a set of tactical and administrative instructions which the commander wishes to make routine. SOP are combat orders; thus, the SOP eliminates the necessity for detailed instructions in the body of orders. Normally, an order will refer to the SOP unless the procedures for an operation are contrary to the procedures contained in the SOP. In such cases, the procedures must be detailed in the order.

a. The SOP of the company will be based on the SOP of the next higher echelon of command. This is necessary to standardize operations down the echelons of command.

b. The company SOP should be continually revised and refined to eliminate unnecessary details and to change procedures to adjust to a change in organization, operation, mission, or the tactical situation.

c. Details of preparation of the signal SOP are contained in FM 24-16.



## APPENDIX I

### REFERENCES

---

#### 1. General

This appendix contains a selected list of army publications pertinent to the training and operations of the signal small headquarters, operations company. Additional publications are listed in Department of the Army Pamphlets (DA PAM) of the 310-series.

#### 2. Army Regulations

- AR 320-5 Dictionary of United States Army Terms.
- AR 320-50 Authorized Abbreviations and Brevity Codes.
- AR 380-5 Safeguarding Defense Information.
- AR 735-35 Supply Procedures for TOE and TDA Units or Activities.
- AR 750-8 Command Maintenance Management Inspections.

#### 3. Army Training Programs

- ATP 11-147 Signal Small Headquarters, Operations Company.

#### 4. Army Training Tests

- ATT 11-147 Signal Small Headquarters, Operations Company.

#### 5. Department of the Army Pamphlets (DA PAM)

- DA PAM 108-1 Index of Motion Pictures, Film-Strips, Slides, Tapes, and Phono-Recordings.

#### 6. Field Manuals

- FM 11-20 Signal Operations, Theater of Operations.
- FM 11-86 Combat Area Signal Battalion, Army.
- FM 11-92 Corps Signal Battalion.
- FM 11-95 Army Signal Battalion.
- FM 21-5 Military Training Management.
- FM 21-6 Techniques of Military Instruction.
- FM 21-30 Military Symbols.
- FM 21-40 Small Unit Procedures in Chemical, Biological and Radiological (CBR) Operations.
- FM 21-41 Soldier's Handbook for Chemical and Biological Operations and Nuclear Warfare.
- FM 24-1 Tactical Communications Doctrine.
- FM 24-16 Signal Orders, Records and Reports.
- FM 24-17 Tactical Communications Center Operations.
- FM 24-18 Field Radio Techniques.
- FM 24-19 Communications - Electronics Reference Data.
- FM 24-20 Field Wire and Field Cable Techniques.
- FM 29-22 Maintenance Operations in the Field Army.
- FM 29-45 General Support Supply and Service in the Field Army.

FM 31-16 Counterinsurgency Operations.  
FM 31-22 US Army Counterinsurgency Forces.  
FM 41-5 Joint Manual for Civil Affairs/Military Government.  
FM 41-10 Civil Affairs Operations.

**7. Technical Manuals (TM)**

TM 38-750 Army Equipment Record Procedures.

**8. JCS Publications**

JCS Pub 1 Dictionary of United States Military Terms for Joint Usage.

## APPENDIX II

### CHARACTERISTICS OF MAJOR ITEMS OF MISSION EQUIPMENT

Nomenclature	Description	Major Components	Remarks
Manual Telephone Central Office AN/MTC-1 TM 11-5805-284-( )	A mobile 3-position, manual telephone central office capable of interconnecting 200 local or common battery telephone circuits and 20 manual or dial trunk circuits.	S-179/MTA-3 S-180/MTA-4 AN/MTA-3 AN/MTA-4 PU-474/M	The AN/MTA-3 and AN/MTA-4 can be mounted on 2½-ton trucks. One power generator PU-474/M mounted in trailer is provided. Weight—shelter-mounted AN/MTA-3—4490 lbs; Shelter-mounted AN/MTA-4—4339 lbs; trailer & PU-474/M—5500 lbs.
Communications Patching Panel SB-611/MRC TM 11-5805-204-( )	A mobile patching panel and necessary items to provide circuit patching and testing.	S-171/MRC Patch Panel Patch Cords	Patching Panel and associated equipment is mounted in Shelter S-171/MRC. Shelter can be mounted on a ¾-ton truck. Weight, including shelter, 1831 lbs.
Switchboard SB-22/PT TM 11-5805-262-( )	A portable, local battery mono-cord switchboard capable of terminating 12 circuits.	N/A	Switchboards may be stacked to provide additional capacity as follows: 2 boards—29 line capacity, 3 boards—46 line capacity. Weight—36 lbs.
Telegraph Terminal AN/MSC-29 TM 11-2225 ( ) TM 11-5805-262-( ) TM 11-5815-206-( ) TM 11-5895-205-( )	A 4-position mobile telegraph terminal providing full-duplex or half-duplex secure or non-secure voice frequency teletypewriter circuits. The AN/ MSC-29 provides 8 tape and 4 page teletypewriter terminals.	S-176/MSC-29 SB-22/PT TT-4( )/TG TT-76( )/GGC PU-294/G	Installed in Shelter S-176/MSC-29 and includes trailer-mounted gasoline generator set PU-294/G. Shelter can be mounted on a 2½-ton truck. Weight—9800 lbs which includes shelter- and trailer-mounted power equipment.
Message Center AN/GSQ-80	A modified Shelter S-141/G to provide power and signal entrance boxes. Folding chairs and tables are provided. Trailer-mounted gasoline engine generator PU-294/G is provided.	S-141/G	Power and signal circuits are provided in separate ducts. Power circuits are routed through circuit breakers for each individual circuit.
Radio Set AN/GRC-26 TM 11-264B TM 11-5820-256-( )	A mobile AM radio set with facilities for the transmission and reception of FSK radio teletypewriter, voice or CW signals. Capable of full-duplex, half-duplex, one-way reversible. Frequency 1.5 to 20 mc. Range: FSK and RATT 400 km. Voice 160 km.	Shelter S-56/G BC-939/URR T-368( )/URT R-390( )/URR AN/FGG-20 TT-76/GGC PU-474/M	Power output is 400 watts on voice and 450 watts on RATT or CW. Components are installed in Shelter S-56/G. Shelters are mounted on 2½-ton trucks which pull trailer-mounted power Generator PU-474/M. Weight—11,000 lbs including shelter and components. Weight of trailer-mounted power equipment is 5500 lbs.

CHARACTERISTICS OF MAJOR ITEMS OF MISSION EQUIPMENT—continued

Nomenclature	Description	Major Components	Remarks
Radio Set	Aircraft type radio	DM 504/37DC	Radio set is manually tuned and is

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,  
*General, United States Army,  
Chief of Staff.*

Official:

J. C. LAMBERT,  
*Major General, United States Army,  
The Adjutant General.*

Distribution:

*Active Army:*

DCSPER (2)  
ACSI (2)  
DCSLOG (2)  
DCSOPS (2)  
ACSFOR (2)  
CORC (2)  
CRD (1)  
COA (1)  
CINFO (1)  
TIG (1)  
TJAG (1)  
TPMG (1)  
TSG (1)  
OPO (1)  
CofEngrs (1)  
CofCh (1)  
USACDC Agcy (5) except  
  USACDCARMMSA (10)  
  USACDCINTA (1)  
  USACDCAVNA (2)  
  USACDCARMA (2)  
  USACDCARTYA (2)  
  USACDCADA (1)  
  USACDCEA (2)  
  USACDCCBRA (2)  
  USACDCCEA (15)  
  USACDCIA (2)  
  USACDCOA (2)  
  USACDCTA (4)  
  USACDCQMA (2)  
  USACDCFINA (1)  
USCONARC (10)

USAMC (15)  
USACDC (10)  
USACDCCAG (5)  
USACDCCSSG (5)  
USACDCCISG (1)  
USACDCIAS (1)  
ARADCOM (5)  
ARADCOM Rgn (5)  
OS Maj Comd (5)  
LOGCOMD (5)  
Armies (25)  
Corps (5)  
Div (2)  
USACGSC (5)  
USAWC (2)  
Br Svc Sch (2) except  
  USAQMS (5)  
  USASWS (10)  
  USAOC&S (4)  
  USA Msl & Mun Cen & Sch (2)  
  USAIS (53)  
  USAINTS (5)  
  USAES (25)  
  USASCS (18)  
  USAAVNS (4)  
Units org under fol TOE:  
11-102 (5)  
11-116 (5)  
11-122 (5)  
11-147 (10)  
11-302 (5)

*NG*: State AG (3); Units—same as Active Army except allowance is one copy to each unit.

*USAR*: Units—same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.

☆ U.S. Government Printing Office: 1966—200-509/6719A